FINAL SITE INSPECTION REPORT FOR METALS TESTING COMPANY (FORMER) SOUTH WINDSOR, CONNECTICUT

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Final Site Inspection Report Metals Testing Company (Former) South Windsor, Connecticut CERCLIS No. CTD055506828 TDD No. 97-02-0009 Work Order No. 11098-021-001-2170-70

INTRODUCTION

The Roy F. Weston, Inc. (WESTON®) Superfund Technical Assessment and Response Team (START) was requested by the U.S. Environmental Protection Agency Region I (EPA Region I), Office of Site Remediation and Restoration to perform a Site Inspection (SI) of the Metals Testing Company (Former) property at 570 Sullivan Avenue in South Windsor, Connecticut. Tasks were conducted in accordance with the SI scope of work and technical specifications provided by EPA Region I. A Preliminary Assessment (PA) Report for the Metals Testing Company (Former) property was prepared by the Connecticut Department of Environmental Protection (CT DEP) on 5 April 1994. The 1994 PA indicated that several volatile organic compounds and inorganic elements were detected in soil and groundwater samples collected from the property. On the basis of the information provided in the PA report, the Metals Testing Company (Former) SI was initiated.

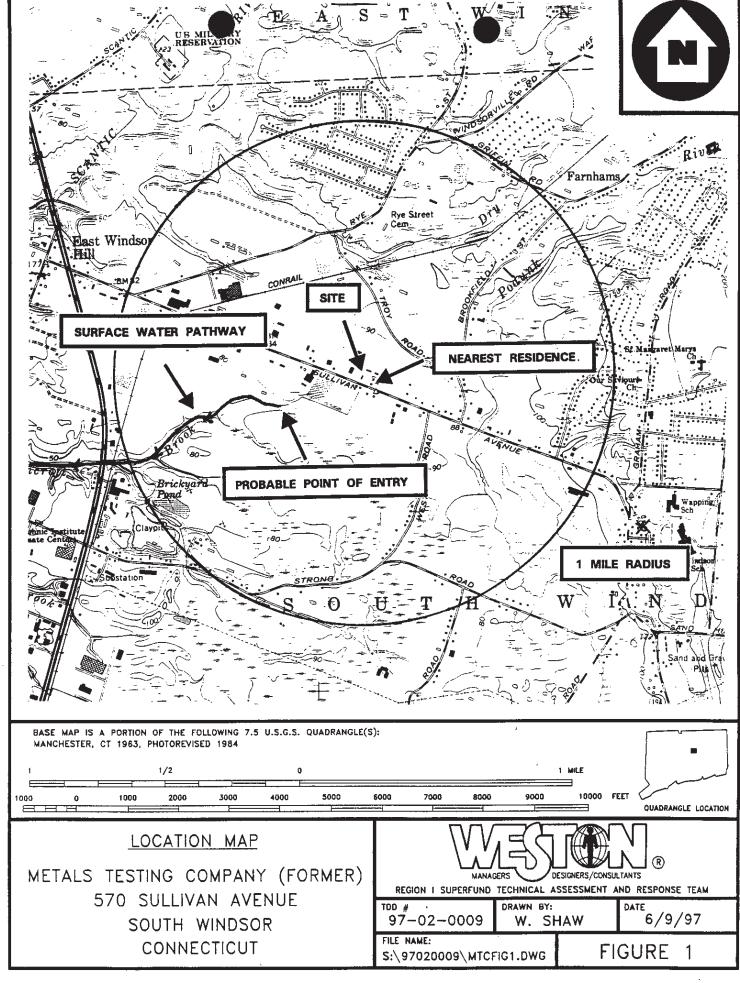
Background information used in the generation of this report was obtained through file searches conducted at the EPA Region I, CT DEP, telephone interviews with town officials, conversations with persons knowledgeable of the Metals Testing Company (Former) property and conversations with other Federal, State, and local agencies.

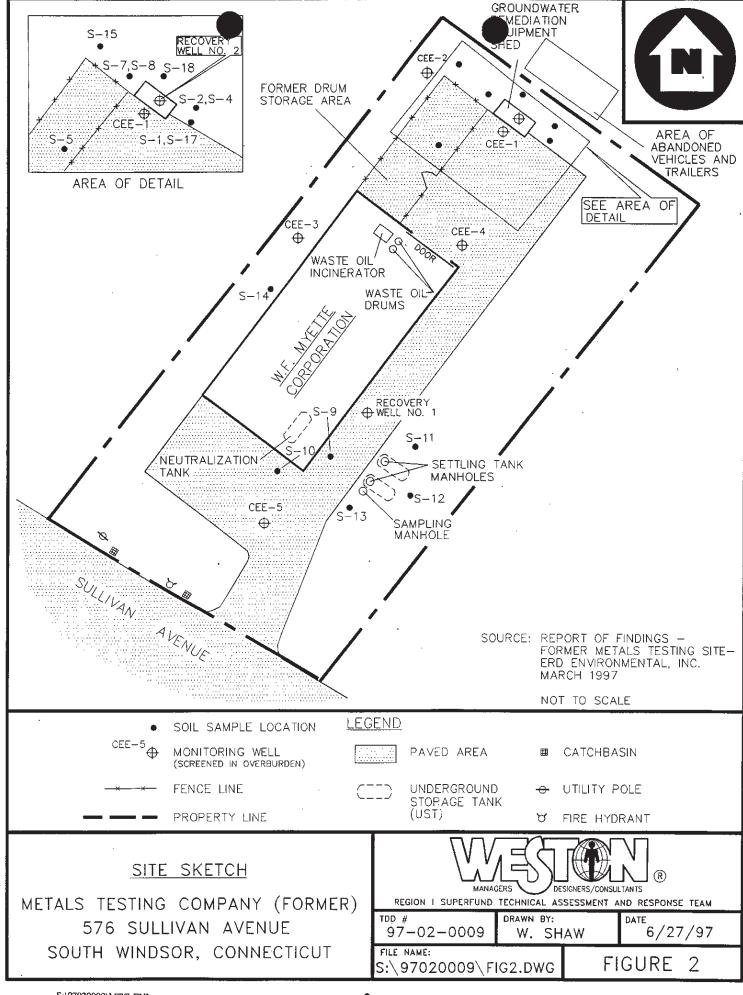
This package follows the guidelines developed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, commonly referred to as Superfund. However, these documents do not necessarily fulfill the requirements of other EPA Region I regulations such as those under the Resource Conservation and Recovery Act (RCRA) or other Federal, State, or local regulations. SIs are intended to provide a preliminary screening of sites to facilitate EPA Region I's assignment of site priorities. They are limited efforts and are not intended to supersede more detailed investigations.

SITE DESCRIPTION

The Metals Testing Company (Former) property (the property) consists of two parcels totaling approximately 42,250 square-feet (ft²), located at 570 Sullivan Avenue in South Windsor, Hartford County, Connecticut at coordinates 41° 51′ 4.8″ north latitude and 72° 34′ 48.75″ west longitude (Figure 1). The South Windsor Tax Assessors Office describes the property as Map No. 111-49 and Parcels No. 1 and 2. Contamination detected on the property, to date, has been limited to Parcel No. 1. The W. F. Myette Corporation currently occupies and operates the property as a warehouse for materials associated with a sales and service business for overhead cranes, hoists, and other material handling equipment [1;2;3].

A single-story, steel-framed, metal-sided industrial building is located on the property [1]. The building was constructed in 1980 and occupies approximately 5,000 ft² of the property. Approximately 30% of the property is asphalt paved (Figure 2) [1].





On 29 May 1997, START personnel performed an on-site reconnaissance at the property. The following observations were made by START personnel.

START personnel observed that there are two structures on the property. A large steel-framed, metal-sided building currently houses the warehoused materials of the W. F. Myette Corporation. The footprint of this building is approximately 5,000 ft². The second structure located on the property is a wood-framed and wood-sided shed which houses the pump and treat groundwater remediation system. The footprint of this building is approximately 200 ft² [3].

START personnel observed five flush-mounted groundwater monitoring wells (CEE-1 through CEE-5) on the property. The groundwater monitoring wells are located radially around the large steel building on the property. START personnel also observed one recovery well (RW-1), a component of the groundwater treatment system, on the property. A second recovery well (RW-2) is located under the shed housing the groundwater treatment system. START personnel conducted air monitoring in the vicinity of the wells with a photoionization detector (PID). No elevated readings were detected in the vicinity of the monitoring or recovery well locations [3].

START personnel observed that components of the former soil vapor extraction system were still present on the property. A synthetic membrane cover used for vapor recovery was still present on portions of the property formerly reported as contaminated with trichloroethylene (TCE). The soil vapor extraction system has not operated since approximately October 1994. The system was shut down due to the non-detection of volatile organic compounds (VOCs) in soil samples collected from the portion of the property where TCE was released [3].

START personnel observed what appeared to be approximately 10 to 15 abandoned vehicles on the property, along the northeastern property boundary. These vehicles consisted of trucks, cars, forklifts, and other pieces of material handling equipment. Several closed trailers were also observed along the northeastern property boundary [3].

In the southeast corner of the property, START personnel observed several access manholes to the metal hydroxide settling tanks which still exist on the property. The current owner of the property did not have any information concerning the settling tanks [3].

START personnel observed an area along the western extent of the property which formerly housed a drum storage area. Metal Testing Company (MTC) stored drums in this area when they operated on the property. The former drum storage area was observed to be surrounded by a 6-foot chain-link fence and contained several pieces of scrap metal [3].

Due to the method by which and condition in which the materials were stored in the large on-site steel building, for health and safety reasons START personnel did not enter the warehouse area of the building during the on-site reconnaissance. By peering into the building via a large receiving door located on the northeast side of the building, START personnel observed two metal 55-gallon drums with hand-written labels indicating that they contained waste oil. According to the property owner, the waste oil was crankcase and hydraulic oil associated with the maintenance activities of his business. The waste oil is incinerated in an on-site CleanBurn products and his incinerator is a demonstration model [3].

START personnel determined that the nearest residence to the property is located at 590 Sullivan Avenue, approximately 300 feet east of the property [3].

START personnel observed two catchbasins located along the southern portion of the property, which borders Sullivan Avenue. According to the owner of the property, the catchbasins are linked together and flow along Sullivan Avenue, to the northwest. At some point, the drainage system crosses under Sullivan Avenue and discharges to an unnamed stream that ultimately discharges to Bancroft Brook [3].

OPERATIONAL AND REGULATORY HISTORY AND WASTE CHARACTERISTICS

The property has been owned by William and Marjorie Myette since 1979. From approximately 1980 until August 1990, the MTC operated on the property under a lease agreement. MTC formerly conducted non-destructive testing of stainless steel, titanium, nickel, and aluminum aircraft components on the property. Operational processes included ultrasonic testing, fluorescent penetrant testing, magnetic particle inspection, etching, and degreasing [4].

Compounds reportedly utilized on site by MTC and the maximum quantity of these materials stored on the property at any particular time are detailed in Table 1.

Table 1
Compounds Formerly Utilized on the Property by MTC

Compound	Maximum Quantity
Trichloroethylene	500 gallon tank
Sodium Hydroxide	Six 500 pound containers
Hydrochloric Acid	Four 55-gallon drums
Hydrofluoric Acid	Two 55-gallon drums
Sulfuric Acid	Two 35- to 55-gallon carboys
Phosphoric Acid	Two 55-gallon carboys
Nitric Acid	Four 55-gallon drums
Ammonium Bifluoride	100 pounds
Xylene	One 10-gallon container
Acetone	One 55-gallon drum
Methyl Ethyl Ketone	One 25-gallon container

Wastewater (contaminated with metals) generated during the MTC etching processes was treated on site by pH adjustment and metal hydroxide settling prior to discharge to the South Windsor sanitary sewer system. Components of the treatment system consisted of a neutralization tank located in the building and several metal hydroxide settling tanks located underground, outside of the building. Additional discharges to the sanitary sewer system during MTC on-site operations consisted of non-contact cooling water from the vapor degreaser and ultrasonic testing procedures, as well as miscellaneous laboratory wastewaters. Discharges to the South Windsor sanitary sewer system were conducted under a State Discharge Permit [4].

MTC operated as a RCRA treatment, storage, and disposal facility until 1986 when their status was changed to that of Generator. In 1989, their RCRA status was changed from that of Generator to Small Quantity Generator. While MTC was in operation on the property, spent solvents, waste oil and penetrants, and metal hydroxide sludges were disposed of via a licensed waste hauler. START personnel were unable to locate any further information pertaining to offsite waste disposal [4].

On 18 October 1988, approximately three gallons of hydrofluoric acid were spilled outside on a paved area of the property. The acid spill was neutralized on site with soda ash. START personnel were unable to locate any further information regarding the acid spill and/or the treatment and disposal of materials associated with the acid spill [4].

Consulting Environmental Engineers, Inc. (CEE) collected 15 soil samples from the property on 28 March 1990 for a report entitled *Soil and Groundwater Sampling and Analysis Summary for Metals Testing Company* (CEE environmental survey). Soil samples were collected from 0 to 4 feet below grade on the property. The March 1990 soil samples were submitted to Averill Environmental Laboratory (Averill) for halogenated VOC analysis, aromatic VOC analysis, total petroleum hydrocarbon (TPH) analysis, and metals analysis via the Extraction Procedures for Toxicity method (EP TOX). Results of these analyses indicated that the soils of the property contained elevated levels of five VOCs and one metal (aluminum) [5]. Additional information concerning the March 1990 soil sampling event will be presented in the Waste/Source Sampling section of this report.

On 16 April 1990, a CEE subcontractor (General Borings, Inc.) installed three overburden groundwater monitoring wells (CEE-1 through CEE-3) on the property as a component of the CEE environmental survey. These wells were sampled by CEE personnel on 24 April 1990 [5]. The groundwater samples were submitted to Averill for TPH and halogenated VOC analyses. Results of these analyses indicated that there were elevated levels of five halogenated VOCs directly attributable to the property in one or more of the groundwater samples. The five halogenated VOCs had been previously detected in several of the March 1990 soil samples collected from impacted areas of the property [5]. Additional information concerning the April 1990 groundwater sampling event will be presented in the Groundwater Pathway section of this report.

A second spill, involving approximately 30 gallons of TCE, was reported to the CT DEP on 30 April 1990. The CT DEP Emergency Incident Report for the incident indicates that the spill occurred on an unknown date and was merely reported on 30 April 1990 [4].

As a result of the detection of TCE in soil and groundwater on the property, a soil vapor extraction system and a groundwater pump and treat remediation system were installed on the property. These systems were installed by Tri-S Environmental Consulting, Inc. (TEC). START personnel were unable to determine the exact dates of installation for these systems. The soil vapor extraction system operated on the property from January 1991 until approximately October 1994. The soil vapor extraction system was shut down due to the non-detection of VOCs in the system influent. The pump and treat groundwater remediation system is still in operation on the property, and the groundwater remediation system has operated on the property since October 1991 [6].

On 7 October 1992, representatives of TEC collected surficial soil samples from several of the locations where soil samples had been collected in 1990. The soil samples were collected at depths between 0 and 3.5 feet below grade. The area of the property that the soil samples were collected from had been under remediation via soil vapor extraction for approximately 19 months. The soil samples were sent to Matrix Analytical Laboratory in Hopkinton, Massachusetts for halogenated VOC analysis by EPA Method 8010. No halogenated VOCs were detected in any of the soil samples collected on 7 October 1992 [7].

On 5 April 1994, the CT DEP completed an EPA PA of the property under EPA's Muti-state Cooperative Agreement. No environmental samples were collected as part of the 1994 EPA PA [4]. The PA indicated that MTC had received a written Order (No. WC-2592) dated October 1979 from the Water Compliance Unit of CT DEP in regards to the discharge of film processing wastewater to an unnamed stream adjacent to the building MTC was occupying. START personnel verified that MTC was not operating at the 570 Sullivan Avenue property in 1979 and determined that Order No. WC-2592 does not apply to the 570 Sullivan Avenue property. No further mention of the discharging of film processing wastewater will be made in this evaluation [4].

On 29 May 1997, START personnel performed an on-site reconnaissance at the property. No environmental samples were collected.

Table 2 presents identified structures or areas on the Metals Testing Company (Former) property that are documented or potential sources of contamination, the containment factors associated with each source, and the relative location of each source.

Table 2

Source Evaluation for Metals Testing Company (Former)

Source Area	Containment Factors	Spatial Location
1988 hydrofluoric acid release	None	Paved parking area.
1990 trichloroethylene release	None	Former drum storage area.
Metal and chlorinated solvent- laden soil	None	Entire property.

Table 2

Source Evaluation for Metals Testing Company (Former) (Concluded)

Source Area	Containment Factors	Spatial Location
Waste oil drums	None	Within building.
Former drum storage area	None	Outside, rear of building.
Wastewater treatment system	None .	Within building and outside adjacent to parking area.
Former trichloroethylene tank	None	Within building.

[3;4;5;9]

Table 3 summarizes the types of potentially hazardous substances which have been disposed, used, or stored on the Metals Testing Company (Former) property.

Table 3

Hazardous Waste Quantity for Metals Testing Company (Former)

Substance	Quantity or Volume/Area	Years of Use/Storage	Years of Disposal	Source Area
Acetone	55 gallons (A)	1980-1990	NA	(B)
Aluminum	Unknown	NA	Unknown	Contaminated Soil
Ammonium bifluoride	100 pounds (A)	1980-1990	NA	(B)
1,4-dichlorobenzene	Unknown	NA	Unknown	Contaminated Soil
1,1-dichloroethylene (C)	Unknown	NA	Unknown	Contaminated Soil
1,2-dichloroethylene (C)	Unknown	NA	Unknown	Contaminated Soil
Hydrochloric Acid	220 gallons (A)	1980-1990	NA	(B)
Hydrofluoric Acid	110 gallons (A)	1980-1990	NA	1988 Hydrofluoric Acid Release
Methyl Ethyl Ketone	25 gallons (A)	1980-1990	NA	(B)
Nitric Acid	220 gallons (A)	1980-1990	NA	(B)
Phosphoric Acid	110 gallons (A)	1980-1990	NA	(B)
Sodium Hydroxide	2,000 pounds (A)	1980-1990	NA	(B)

Table 3

Hazardous Waste Quantity for Metals Testing Company (Former) (Concluded)

Substance	Quantity or Volume/Area	Years of Use/Storage	Years of Disposal	Source Area
Sulfuric Acid	110 gallons (A)	1980-1990	NA	(B)
1,1,1,2-tetrachloroethane	Unknown	NA	Unknown	Contaminated Soil
Tetrachloroethylene	Unknown	NA	Unknown	Contaminated Soil
Titanium	Unknown	1980-1990	NA	(B)
1,1,1-trichloroethane (C)	Unknown	NA	Unknown	Contaminated Soil
1,1,2-trichloroethane	Unknown	NA	Unknown	Contaminated Soil
TCE	500 gallons (A)	NA	Unknown	Former TCE tank and 1990 TCE Release
Waste Oil	Unknown	1990-present	NA	Waste Oil Drums
Xylenes	10 gallons (A)	1980-1990	NA	(B)

- (A) = Volumes and quantities presented are the maximum amounts of the indicated compounds stored on the property at any particular point in time during Metal Testing Company's on-site operations (1980-1990).
- (B) = Indicated compounds were used on the property during Metal Testing Company's on-site operations.

 No evidence exists that these compounds were ever released or disposed of on the property.
- (C) = Indicated compounds were detected in groundwater samples collected from the property and are assumed by START personnel to be breakdown products of 1,1,1,2-tetrachloroethane, tetrachloroethylene, and trichloroethylene, compounds which were detected in soil samples collected from the property in March 1990.

TCE = Trichloroethylene NA = Not applicable

[3;4;5;9]

There are no known National Priority List sites located within 4-radial miles of the property. There are approximately eight additional Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites located in South Windsor, Connecticut. Two of the additional CERCLIS sites, H&B Tool and Engineering Company (CTD001143089) and Industronics (CTD005931456), are located at 481 and 489 Sullivan Avenue, respectively. There are approximately 41 RCRA notifiers located within South Windsor, Connecticut [21;22].

WASTE/SOURCE SAMPLING

As previously mentioned, CEE collected soil samples from the property on 28 March 1990 for a report entitled *Soil and Groundwater Sampling and Analysis Summary for Metals Testing Company* (CEE environmental survey). The CEE environmental survey was being conducted prior to the relocation of MTC to another parcel in South Windsor, Connecticut [5]. Fifteen soil samples (S-1, S-2, S-4, S-5, S-7 through S-15, S-17, S-18) were collected as part of the survey. Soil samples were collected from 0 to 4 feet below grade on the property. The samples were collected from areas on the property that were thought to have been potentially impacted by historical on-site operations [5].

The soil samples were analyzed for halogenated VOCs via EPA Method 8010 and aromatic VOCs via EPA Method 8020. Several of the soil samples were also analyzed for TPH via EPA Method 418.1, and for seven leachable metals (aluminum, cadmium, chromium, lead, silver, nickel, and zinc) via the EP TOX method. All of the soil sample analyses were conducted by Averill, located in Plainville, Connecticut [5].

Results of the soil sample analyses indicated that soils on the property contained elevated levels of five organic compounds [1,4-dichlorobenzene; 1,1,1,2-tetrachloroethane; tetrachloroethylene (PCE); 1,1,2-trichloroethane; and TCE], one inorganic element (aluminum), and TPH. Detected concentrations ranged from 85 parts per billion (ppb) for 1,1,2-trichloroethane to 870 parts per million (ppm) for TPH [5].

Table 4 presents a summary of the maximum concentrations for substances detected in the soil samples collected by CEE from the property in March 1990. A substance is listed if it was detected at a concentration three times or greater than the reference sample concentration. However, if the compound or element was not detected in the reference sample then the substance is listed if it was detected at a concentration equal to or greater than the reference sample detection limit (DL).

Table 4

Summary of Maximum Concentrations

Analytical Results for Soil Samples collected by

Consulting Environmental Engineers, Inc. for

Metals Testing Company (Former).

Contaminant	Maximum Sample Concentration (ppm)	Sample ID	Reference Concentration (ppm)	Reference ID
1,4-dichlorobenzene	1.2	S-2	DL(<0.002)	S-4
1,1,1,2-tetrachloroethane	0.19	S-2	DL(<0.002)	S-4
Tetrachloroethylene	2.9	S-2	DL(<0.002)	S-4
1,1,2-trichloroethane	0.13	S-2	DL(<0.002)	S-4
Trichloroethylene	17	S-7	DL(<0.002)	S-4

Table 4

Summary of Maximum Concentrations Analytical Results for Soil Samples collected by Consulting Environmental Engineers, Inc. for Metals Testing Company (Former). (Concluded)

Contaminant	Maximum Sample Concentration (ppm)	Sample ID	Reference Concentration (ppm)	Reference ID
ТРН	870	S-8	DL (<42)	S-4
Aluminum	0.76	S-7	DL (<0.3)	S-4

ppm = Parts per million
DL = Detection limit

TPH = Total petroleum hydrocarbon

[5]

On 7 October 1992, representatives of TEC collected surficial soil samples from several of the locations where soil samples had been collected in 1990. The soil samples were collected at depths between 0 and 3.5 feet below grade. The area of the property that the soil samples were collected from had been under remediation via soil vapor extraction for approximately 19 months. The soil samples were sent to Matrix Analytical Laboratory in Hopkinton, Massachusetts for halogenated VOC analysis by EPA Method 8010. No halogenated VOCs were detected in any of the soil samples collected on 7 October 1992 [7].

GROUNDWATER PATHWAY

Soils in the vicinity of the property have been characterized as Ninigret fine sandy loam and Walpole sandy loam. The Ninigret fine sandy loam is described as consisting of a light fine sandy loam and sandy loam surface soil and upper subsoil developed from bedrock, glaciofluvial, glaciolacustrine, and stream terrace deposits. Unsaturated Ninigret fine sandy loam is further described as having rapid permeability. The Walpole sandy loam is described as consisting of course-to-medium textured, poorly drained soils developed from sandy and gravelly terrace deposits. Soils of this type have been characterized as having very slow runoff and slow internal drainage. The specific depth to bedrock below the property is unknown. Bedrock in the region of the property has been described as consisting of the reddish brown-to-gray Portland Arkose formation. No bedrock formations mapped within 4-radial miles of the property exhibit karst characteristics [5].

According to the CEE environmental survey, the property overlies a fine grained stratified drift aquifer. During the installation of the on-site monitoring wells, CEE personnel observed that the upper 15 feet of the aquifer was generally made up of fine-to-course sand and some gravel of glaciofluvial and fluvial origin. Well yields in this material may exceed 400 gallons per minute. Wells screened in the underlying material comprised of fine grained sediments (very fine sand, silt, and clay) generally yield less that 10 gallons per minute [5].

Groundwater below the property is generally encountered at depths ranging from 3 to 5 feet below grade. The natural groundwater flow direction is towards the south-southwest. However, when the groundwater pump and treat remediation system is active, groundwater flow is redirected towards the recovery well. The 1994 PA reported the following aquifer characteristics: a transmissivity of 1,000 gallons per day per foot, a saturated thickness of 8 feet, and a hydraulic conductivity of 190 gallons per day per square-foot [4;5].

The property is located in an area where the CT DEP classifies groundwater as GA. This designation (GA) indicates that groundwater is within the area of influence of private and potential public water supply wells and is presumed suitable for human consumption without need for treatment. The CT DEP goal is to maintain the groundwater water classification of GA for this area [4].

The mean annual rate of precipitation for Brainard Airport in Hartford, Connecticut, located approximately 9 miles southwest of the property, is 42.77 inches. START personnel assume for this evaluation that 42.77 inches of rain per year is representative of the precipitation rate for the property [10].

The exact location of the nearest private drinking water well could not be determined by START personnel. According to the 1994 PA, the nearest private well is located approximately 2,250 feet north of the property along Troy Road. However, START personnel could not determine the specific address or current status of the well. According to the CENTRACTS report for the property, there are approximately 34 people utilizing private groundwater sources within 0.25-radial miles of the property, and 427 people utilizing private groundwater sources within 1-radial mile of the property [4;8].

The nearest municipal well is the public supply well operated by the Hillsdale Water Company. This well is located approximately 1.33 miles southeast of the property and serves approximately 31 people in South Windsor. An estimated 5,133 people obtain their drinking water from municipal wells located within 4-radial miles of the property. Tables 5 and 6 summarize groundwater sources, usage, and populations for drinking water within 4-radial miles of the property [11;12;19].

Table 5

Public Groundwater Supply Sources Within 4-Radial Miles of Metals Testing Company (Former).

Distance/ Direction from Site	Source Name	Location of Sourcea	Estimated Population Served	Source Type ^b
1.33 miles/ southeast	Hillsdale Water Co.	South Windsor	31	Unknown
3.5 miles/ northeast	Windsorville Water Co.	East Windsor	33	Unknown
3.6 miles/ southeast	Pine Knob Well	South Windsor	3,864	Unknown
3.69 miles/ southeast	Woodland Park Well	South Windsor	502	Unknown
3.88 miles/ southeast	Avery Heights Water Association	South Windsor	703	Unknown

^a Indicates Town in which well is located.

[12]

Table 6

Estimated Drinking Water Populations Served by Groundwater Sources
Within 4-Radial Miles of Metals Testing Company (Former).

Radial Distance From Metals Testing Company (Former) (miles)	Estimated Population Served by Private Wells	Estimated Population Served by Public Wells	Total Estimated Population Served by Groundwater Sources Within the Ring
0.00 < 0.25	34	0	34
0.25 < 0.50	92	0	92
0.50 < 1.00	301	0	301
1.00 < 2.00	1,668	31	1,699
2.00 < 3.00	1,837	0	1,837
3.00 < 4.00	2,235	5,102	7,337
TOTAL	6,167	5,133	11,300

[8;12]

^b Overburden, Bedrock, or Unknown.

As previously mentioned, five groundwater monitoring wells were observed by START personnel during the on-site reconnaissance. Three overburden groundwater monitoring wells (CEE-1, CEE-2, and CEE-3) were installed on 16 April 1990 by General Boring, Inc. Groundwater samples were collected from these wells and sent to Averill Environmental Laboratory for TPH and halogenated VOC analyses. Results of these analyses indicated the presence of seven halogenated VOCs in one or more of the groundwater samples. Two of the halogenated VOCs detected (dibromochloromethane and methylene chloride) were not present in the March 1990 soil samples and also were reportedly not used on the property by MTC. Therefore, these compounds will not be attributed to the property and will not be discussed further in this report. Detected concentrations for the remaining compounds ranged from 5.9 to 5,500 ppb [5].

Due to the detection of TCE in the April 1990 groundwater samples, MTC notified the CT DEP on 30 April 1990 of a release of approximately 30 gallons of TCE. The exact date of the release was not indicated [4].

On 4 June 1990, General Boring, Inc. installed two additional monitoring wells (CEE-4 and CEE-5) on the property. On 11 June 1990, groundwater samples were collected from the three previously installed wells and the two newly installed wells. Groundwater samples were analyzed by an unknown laboratory for halogenated VOCs. The five previously detected VOCs were still present in the groundwater sample from monitoring well CEE-1. In addition, a previously non-detected halogenated VOC (1,1,2-trichloroethane) was found to be present in the June 1990 groundwater sample collected from monitoring well CEE-1 [4;13].

As a result of the detection of halogenated VOCs in the groundwater below the property, a groundwater remediation system was designed. The remediation system consisted of a surface-mounted pump operated via a float switch and a shallow tray aeration system capable of removing approximately 99% to 100% of the TCE from the recovered groundwater [13].

On 15 November 1990, Kennedy Drilling, Inc. installed two 4-inch recovery wells (RW-1 and RW-2) on the property. RW-2 was installed at the time to extract contaminated groundwater for the groundwater remediation system. RW-1 was installed for possible future treatment of contaminated groundwater [13].

The analysis of the quarterly groundwater samples collected on 29 October 1991 from the monitoring and recovery wells on the property indicated the detection of a previously non-detected compound. 1,2-Dichloroethylene was detected at 53 ppb in the sample collected from monitoring well CEE-1.

Table 7 presents a summary of the maximum concentrations for substances detected in groundwater samples collected from the property. A substance is listed if it was detected at a concentration three times or greater than the reference sample concentration. However, if the compound or element was not detected in the reference sample then the substance is listed if it was detected at a concentration equal to or greater than the reference sample DL.

Table 7

Summary of Maximum Concentrations Analytical Results for Groundwater Samples collected by Consulting Environmental Engineers, Inc. at Metals Testing Company (Former)

Date	Contaminant	Maximum Concentration (ppb)	Sample Location	Reference Concentration (ppb)	Background Location
6/90	1,1-dichloroethylene	6	CEE-1	DL (<1)	CEE-2
10/91	1,2-dichloroethylene	53	CEE-1	DL (<1)	CEE-2
4/90	1,1,1,2-tetrachloroethane	10	CEE-1	DL (<1)	CEE-2
4/90	Tetrachloroethylene	31	CEE-1	DL (<1)	CEE-2
4/90	1,1,1-trichloroethane	220	CEE-1	DL (<1)	CEE-2
6/90	1,1,2-trichloroethane	120	CEE-1	DL (<1)	CEE-2
4/90	Trichloroethylene	5,500	CEE-1	DL (<1)	CEE-2

ppb

= Parts per billion

DL = Detection Limit

[5;9]

At some point between 29 April 1994 and 11 September 1995, the groundwater treatment system was disconnected from recovery well RW-2 and connected to recovery well RW-1. This was due to the decreased levels of halogenated VOCs in groundwater recovered from recovery well RW-2. Environmental Services of America, Inc. (ENSA), the environmental consultant for MTC at the time that the recovery wells were transferred, theorized that a cone of influence from recovery well RW-1 would pull contaminated groundwater from the center of the plume below the property [14].

Groundwater beneath the property continues to be sampled quarterly. The most current groundwater sampling analytical data that START personnel were able to review summarized groundwater samples collected from the property on 17 December 1996 and 29 January 1997. This data indicated that TCE concentrations in the groundwater below the property continue to range from 3.6 to 96 ppb [9].

SURFACE WATER PATHWAY

According to the 1994 PA prepared by the CT DEP, there are two possible probable point of entry (PPE) areas as well as two separate 15-mile downstream pathways (downstream pathway) for the property [4].

The 1994 PA indicated that the first downstream pathway involves overland flow to the northern side of the property to a series of storm drains which ultimately discharge to an unnamed intermittent stream. This intermittent stream flows to the first PPE at the Scantic River. The overland distance between the property and the Scantic River is approximately 1.4 miles. This downstream pathway then continues along the Scantic River for approximately 2 miles, at which point the Scantic River converges with the Connecticut River. The 15-mile terminus for the first downstream pathway is then reached at Keeney Cove in Glastonbury, Connecticut after approximately 13 miles of flow along the Connecticut River [4;15].

The 1994 PA indicated that the second possible downstream pathway involves overland flow to the southern portion of the property and interception by another network of storm drains. These storm drains flow via an intermittent swale system to the second PPE area at Bancroft Brook. The overland segment prior to Bancroft Brook for the second downstream pathway is approximately 0.5 miles. The second downstream pathway includes flow along Bancroft Brook for approximately 1.8 miles to its convergence with Stoughton Brook. This downstream pathway then continues along Stoughton Brook for approximately 0.8 miles until its convergence with the Connecticut River. The 15-mile terminus for the second downstream pathway is reached at Crow Point in Wethersfield, Connecticut after approximately 12.4 miles of flow along the Connecticut River [4;15].

The Scantic River is classified as a Class B waterbody. Class B waterbodies are known or presumed to meet water quality criteria which support designated uses. Designated uses for Class B waterbodies include recreational use, fish and wildlife habitat, agricultural and industrial supply, and other legitimate uses including navigation. Bancroft Brook is classified as a Class B/A waterbody. Class B/A waterbodies may not be meeting Class A water quality criteria or one or more designated uses. Designated uses for Class A waterbodies include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other legitimate uses including navigation. The Connecticut River is classified as a Class SC/SB waterbody. Class SC/SB waterbodies are presently not meeting water quality criteria or one or more designated uses of a Class SB waterbody due to pollution. The goal for such waters may be Class SA or SB depending upon the specific designated uses. Designated uses for a Class SB waterbody include marine fish, shellfish, and wildlife habitat, recreation, industrial and other legitimate uses including navigation [20]. Surface water classification for Stoughton Brook was unavailable.

The property is generally flat with a slight grade towards Sullivan Avenue. During the START on-site reconnaissance on 29 May 1997, it was observed that the downstream pathway which includes the Bancroft and Stoughton Brooks and the Connecticut River is the more probable downstream pathway for the property. The downstream pathway that includes flow along the Scantic River and the Connecticut River will not be evaluated further in this report [3].

The mean annual flow rate of Bancroft Brook was determined to be 4.5 cubic feet per second (cfs). The mean annual flow rate for Stoughton Brook was determined to be 8.1 cfs. START personnel determined these flow rates by measuring the drainage basins of each brook (measured in square miles) and multiplying by a correction factor of 1.8 to arrive at the previously mentioned flow rates. The mean annual flow rate of the Connecticut River was determined to be 18,877 cfs. START personnel obtained an area of 10,487 square miles for the Connecticut River drainage basin from the *Water Resource Data Connecticut - Water Year 1994* publication, published by the U.S. Geological Survey. The drainage basin area (measured in square miles) was then multiplied by a correction factor of 1.8 to arrive at the previously mentioned flow rate [16].

Surface water bodies comprising the downstream pathway for the property are summarized in Table 8.

Table 8

Water Bodies Along the 15-Mile Downstream Pathway from Metals Testing Company (Former)

Surface Water Body	Descriptor ^a	Length of Reach (miles)	Flow Characteristics (cfs) ^b	Length of Wetlands (miles)
Bancroft Brook	Minimal Stream	1.8	4.5	1.36
Stoughton Brook	Minimal Stream	0.8	8.1	0.19
Connecticut River	Large River	12.4	18,877	8.64

Minimal stream <10 cfs. Small to moderate stream 10-100 cfs. Moderate to large stream >100-1,000 cfs. Large stream to river >1,000-10,000 cfs. Large river >10,000-100,000 cfs. Very large river >100,000 cfs. Coastal tidal waters (flow not applicable). Shallow ocean zone or Great Lake (flow not applicable). Moderate depth ocean zone or Great Lake (flow not applicable). Three-mile mixing zone in quiet flowing river 10 cfs or greater.

b Cubic feet per second.

[2,15,16,17]

There are no known drinking water intakes located along the downstream pathway for the property. There are approximately 1.36 miles of wetlands frontage along the Bancroft Brook, approximately 0.19 miles of wetlands frontage along Stoughton Brook, and approximately 8.64 miles of wetlands frontage along the Connecticut River. START personnel were unable to obtain any information verifying that Bancroft and Stoughton Brooks were fisheries; however, for this evaluation, START personnel will assume that the two brooks are recreational fisheries. The Connecticut River is a known recreational fishery. The only additional sensitive environment information that START personnel were able to obtain from CT DEP concerning the downstream pathway for the property indicates that the Connecticut River is potential habitat for one Federal endangered species, the Atlantic Sturgeon [15;17;18].

Sensitive environments located along the downstream pathway for the property are summarized in Table 9.

Table 9

Sensitive Environments Along the 15-Mile Downstream Pathway from Metals Testing Company (Former)

Sensitive Environment Name	Sensitive Environment Type	Water Body	Downstream Distance from PPE (miles)	Flow Rate at Environment (cfs) ^a
CWA Water body	CWA Water body	Bancroft Brook	0.1	4.5
Wetlands	Wetlands	Bancroft Brook	0.75	4.5
Wetlands	Wetlands	Stoughton Brook	1.8	8.1
Wetlands	Wetlands	Connecticut River	2.6	18,877
Fed. Endg. Species.	Fed. Endg. Species	Connecticut River	2.6	18,877

^a Cubic feet per second

CWA = Clean Water Act Fed. Endg. = Federal Endangered

[2;15;16;17;18]

On 5 April 1994, the CT DEP completed a PA of the property. No environmental samples were collected as part of the 1994 PA [4]. The PA indicated that MTC had received a written Order (No. WC-2592) dated October 1979 from the Water Compliance Unit of CT DEP in regards to the discharge of film processing wastewater to an unnamed stream adjacent to the building MTC was occupying. START personnel verified that MTC was not operating at the 570 Sullivan Avenue property in 1979 and determined that Order No. WC-2592 does not apply to the 570 Sullivan Avenue property. No further mention of the discharging of film processing wastewater will be made in this evaluation [4].

SOIL EXPOSURE PATHWAY

There are no residences located on the property. At the time of the START on-site reconnaissance, there were three people employed full-time by the W. F. Myette Corporation working on the property. The nearest residence is located approximately 300 feet east of the property at 590 Sullivan Avenue. According to the CENTRACTS report for the property, prepared by Frost Associates, Inc., there are approximately 1,846 people residing within 1-radial mile of the property. To date, no known soil samples have been collected on any residential properties associated with the MTC property. Based on available information and on-site observations, nearby residential properties are not considered likely targets [3;8].

START personnel conducted an on-site reconnaissance of the property on 29 May 1997. During the START on-site reconnaissance, it was observed that both vehicular and pedestrian access to the property is unrestricted. There are no schools or day-care facilities located within 200 feet of the property. The nearest school is the Wapping School, located on Ayers Street in South Windsor. This school is approximately 1.5 miles southeast of the property. There are no terrestrial sensitive environments located on the property [3].

There have been two documented hazardous material spills on the property. The first involved the release of approximately 3 gallons of hydrofluoric acid. This spill occurred on 18 October 1988 on the paved parking area of the property. As previously mentioned, the spill was neutralized on site with soda ash. START personnel were unable to locate any further information regarding the acid spill and/or the treatment and disposal of materials associated with the acid spill [4].

The second spill involved approximately 30 gallons of TCE. This spill occurred on a paved drum storage area at the rear of the property, on an unknown date. The spill was reported to the CT DEP on 30 April 1990. Soil sampling conducted on the property in 1990 supports a release of TCE to the soils of the property. As a result of the detection of TCE in the soils of the property, a soil vapor extraction system was installed. The soil vapor extraction system was operated from January 1991 until approximately October 1994, when it was shut down due to decreased levels of VOCs in the influent soil vapor [4;6].

Several surficial soil samples were collected from the area of the TCE spill both prior to the installation of the soil vapor extraction system and while the soil vapor extraction system was in operation. Fifteen soil samples were collected as part of the soil sampling portion of the soil and groundwater survey. Six of the soil samples were collected from 0 to 24 inches below grade. The remaining soil samples were collected from 2 to 4 feet below grade. The samples were collected from areas of the property which were thought to have been impacted by historical on-site operations [5].

The soil samples were analyzed for TPH, halogenated VOCs, and aromatic VOCs. Several of the soil samples were also analyzed for seven leachable metals (aluminum, cadmium, chromium, lead, silver, nickel, and zinc) via the EP TOX method. All of the soil sample analyses were conducted by Averill Environmental Laboratory, located in Plainville, Connecticut [5]. Additional information concerning the March 1990 soil sampling event is presented in the Waste/Source Sampling section of this report [5]:

Results of the analyses conducted on the soil samples indicated that the soils of the property contained elevated levels of five organic compounds (1,4-dichlorobenzene; 1,1,1,2-tetrachloroethane; PCE; 1,1,2-trichloroethane; and TCE), one inorganic element (aluminum), and TPH. Detected concentrations ranged from 85 ppb for 1,1,2-trichloroethane to 870 ppm for TPH [5].

On 7 October 1992, representatives of TEC collected surficial soil samples from several of the locations where soil samples had been collected in 1990. The soil samples were collected at depths between 0 and 3.5 feet below grade. The area of the property that the 1992 soil samples were collected from had been under active remediation via soil vapor extraction for

approximately 19 months. The 1992 soil samples were sent to Matrix Analytical Laboratory in Hopkinton, Massachusetts for halogenated VOCs analysis by EPA Method 8010. No halogenated VOCs were detected in any of the soil samples collected on 7 October 1992 [7].

AIR PATHWAY

The nearest residence is located approximately 300 feet east of the property at 590 Sullivan Avenue. The CENTRACTS report prepared by Frost Associates, Inc. indicates that there are an estimated 33,271 people residing within 4-radial miles of the property. At the time of the START on-site reconnaissance, there were three employees of the W. F. Myette Corporation working on the property. The 4-radial mile population value does not include the three on-site workers. Table 10 summarizes the population distribution within 4-radial miles of the property [3;8].

Table 10

Estimated Population Within 4-Radial Miles of Metals Testing Company (Former)

Radial Distance From Metals Testing Company (Former) (miles)	Estimated Population
On-site	3
0.00 < 0.25	112
0.25 < 0.50	289
0.50 < 1.00	1,445
1.00 < 2.00	4,413
2.00 < 3.00	9,961
3.00 < 4.00	17,051
TOTAL	33,274

[8]

There are no Federal-endangered, threatened, or candidate species habitats located within 4-radial miles of the property. However, there are several other sensitive environments within 4-radial miles of the property, including 16 occurrences of State-threatened or endangered species habitats, and 14 occurrences of State Special Concern species habitats. There are also approximately 2,022 acres of wetlands located within 4-radial miles of the property. Table 11 summarizes the sensitive environments located within 4-radial miles of the property [17;18].

Table 11

Sensitive Environments Located Within 4-Radial Miles of Metals Testing Company (Former).

Radial Distance from Metals Testing Company (Former) (miles)	Sensitive Environment/Species (status)
	3 acres of wetlands.
0.00 < 0.25	1 occurrence of State Special Concern species habitat.
0.25 < 0.50	18 acres of wetlands.
·	1 occurrence of a State-endangered species habitat.
	1 occurrence of State Special Concern species habitat.
0.50 < 1.00	126 acres of wetlands.
	3 occurrences of State-threatened species habitat.
	2 occurrences of State Special Concern species habitat.
1.00 < 2.00	420 acres of wetlands.
2.00 < 3.00	574 acres of wetlands.
	4 occurrences of State-endangered species habitat.
	6 occurrences of State-threatened species habitat.
	4 occurrences of State Special Concern species habitat.
3.00 < 4.00	881 acres of wetlands.
·	2 occurrences of State-endangered species habitat.
	6 occurrences of State Special Concern species habitat.

[2;17;18]

No previous known quantitative air sampling has been conducted at the property. During the on-site reconnaissance, START personnel conducted air monitoring utilizing a PID. No readings above background were detected during START air monitoring activities [3].

SUMMARY

The Metals Testing Company (Former) property (the property) consists of two parcels totaling approximately 42,250 square-feet (ft²), located at 570 Sullivan Avenue in South Windsor, Hartford County, Connecticut at coordinates 41° 51′ 11.5″ north latitude and 72° 34′ 54.5″ west longitude. The South Windsor Tax Assessors Office describes the property as Map No. 111-49, Parcels No. 1 and 2. Contamination detected on the property, to date, has been limited to Parcel No. 1. The property has been owned by William and Marjorie Myette since 1979. The W. F. Myette Corporation currently occupies and operates the property as a warehouse for materials associated with a sales and service business for overhead cranes, hoists, and other material handling equipment.

A single-story, steel-framed, metal-sided industrial building is located on the property. The building was constructed in 1980 and occupies approximately 5,000 ft² of the property. A second structure located on the property consists of a wood-framed and wood-sided shed which houses a pump and treat groundwater remediation system. The footprint of this building is approximately 200 ft². Approximately 30% of the property is asphalt paved.

From approximately 1980 until August 1990, the Metal Testing Company (MTC) operated on the property under a lease agreement. MTC formerly conducted non-destructive testing of stainless steel, titanium, nickel, and aluminum aircraft components on the property. Operational processes included ultrasonic testing, fluorescent penetrant testing, magnetic particle inspection, etching, and degreasing. Compounds utilized by MTC in their operational processes consisted of various volatile organic compounds (VOCs), acids, and bases.

Wastewater (contaminated with metals) generated during the MTC etching processes were treated on site by pH adjustment and metal hydroxide settling prior to discharge to the South Windsor sanitary sewer system. Discharges to the South Windsor sanitary sewer system were conducted under a State Discharge Permit. MTC operated as a Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal facility until 1986 when their status was changed to that of Generator. In 1989 the RCRA status was changed from Generator to Small Quantity Generator. While MTC was in operation on the property, spent solvents, waste oil and penetrants, and metal hydroxide sludges were disposed of via a licensed waste hauler.

While MTC was operating on the property, there were two documented hazardous material spills. The first spill occurred on 18 October 1988 and involved approximately three gallons of hydrofluoric acid. The acid spill was neutralized on site with soda ash.

The second spill was reported to the Connecticut Department of Environmental Protection (CT DEP) on 30 April 1990 and allegedly involved approximately 30 gallons of trichloroethylene (TCE) released from a punctured drum. Previous soil samples collected in March 1990 and groundwater samples collected in April 1990 revealed that several VOCs were present in the soils and groundwater of the property. As a result of the TCE release, a soil vapor extraction system was installed, and operated on the property from January 1991 until approximately October 1994. A pump and treat groundwater remediation system has operated on the property since October 1991. This groundwater remediation system is still in operation on the property.

Groundwater below the property is generally encountered at depths ranging from 3 to 5 feet below grade. The natural groundwater flow direction is towards the south-southwest. The property is located in an area where the CT DEP classifies groundwater as GA.

According to the 1994 Preliminary Assessment of the property, the nearest private well is located approximately 2,250 feet (0.43 miles) north of the property along Troy Road. The specific address or current status of the well could not be determined for this report. According to the CENTRACTS report for the property, there are approximately 34 people utilizing private groundwater sources within 0.25-radial miles of the property. The nearest municipal well is the public supply well operated by the Hillsdale Water Company. This well is located approximately 1.33 miles southeast of the property and serves approximately 31 people in South Windsor. An estimated 11,300 people obtain their drinking water from both public and private wells located within 4-radial miles of the property.

The 15-mile surface water downstream pathway (downstream pathway) for the property involves overland flow to the southern portion of the property and interception by a network of storm drains. These storm drains flow via an intermittent swale system to the probable point of entry (PPE) area at Bancroft Brook. The overland segment prior to Bancroft Brook is approximately 0.5 miles. The downstream pathway includes flow along Bancroft Brook [4.5 cubic feet per second (cfs)] for approximately 1.8 miles to its convergence with Stoughton Brook. The downstream pathway then continues along Stoughton Brook (8.1 cfs) for approximately 0.8 miles until its convergence with the Connecticut River (18,877 cfs). The 15-mile terminus for the downstream pathway is reached at Crow Point in Wethersfield, Connecticut after approximately 12.4 miles of flow along the Connecticut River.

There are no known drinking water intakes located along the downstream pathway for the property. There are approximately 1.36 miles of wetlands frontage along Bancroft Brook, approximately 0.19 miles of wetlands frontage along Stoughton Brook, and approximately 8.64 miles of wetlands frontage along the Connecticut River. For this report, Bancroft and Stoughton Brooks are assumed to be recreational fisheries. The Connecticut River is a known recreational fishery. The Connecticut River is potential habitat for one Federal endangered species, the Atlantic Sturgeon.

There are no residences located on the property. Three people are employed full-time by the W. F. Myette Corporation. The nearest residence is located approximately 300 feet east of the property at 590 Sullivan Avenue. Both vehicular and pedestrian access to the property is unrestricted. According to the CENTRACTS report for the property, there are approximately 1,846 people residing within 1-radial mile of the property. To date, no known soil samples have been collected on any residential properties associated with the MTC property. Based on available information and on-site observations, nearby residential properties are not considered likely targets for soil exposure.

There are no Federal-endangered, threatened, or candidate species habitats located within 4-radial miles of the property. However, there are several other sensitive environments within 4-radial miles of the property, including 16 occurrences of State-threatened or endangered species habitats, and 14 occurrences of State Special Concern species habitats. There are also approximately 2,022 acres of wetlands located within 4-radial miles of the property.

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